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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/670,648	09/27/2000	Paul Kunisch	SIEM0022U/US	7175

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EXAMINER

JAMAL, ALEXANDER

ART UNIT	PAPER NUMBER
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2643

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DATE MAILED: 07/11/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/670,648

Applicant(s)

KUNISCH, PAUL

Examiner

Alexander Jamal

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on 27 September 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) _____ is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 5.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Specification

1. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

The following title is suggested: "Method for recognizing an off-hook condition on a single subscriber line with two terminal devices".

2. The disclosure is objected to because of the following informalities: On page 4, line 6 "termite" should be "terminal".

Appropriate correction is required.

3. The disclosure is objected to because of the following informalities: In Page 4, lines 4-8, the applicant describes lowering a DC resistance to 5mA. Milli-amperes (mA) are not the proper unit for a DC resistance measurement.

Appropriate correction is required.

Claim Objections

4. **Claim 4** objected to because of the following informalities: The claim reads: "...is determined such that IS corresponds ...". "Is" should be changed to "it".

Appropriate correction is required.

5. **Claim 6** objected to because of the following informalities: "Termite" should be changed to "terminal".

Appropriate correction is required.

Claim Rejections - 35 USC § 112

6. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

7. **Claim 6** rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Claim 6 specifies lowering a DC resistance to 5mA. Milli-amperes (mA) are not the proper unit for a DC resistance measurement.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. **Claims 1,2,4** rejected under 35 U.S.C. 103(a) as being unpatentable over Kramer (5422939).

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a. Claim 1

i. Kramer describes a method in a communications system that detects the loop direct current and voltage of a two-wire subscriber line with a first terminal device and compares the measurement to a threshold to determine an off-hook condition in the first terminal device (Col 2, lines 36-38). Kramer measures the time it takes to charge up a capacitor as an indication of the level of the voltage across and current flow in the subscriber line. The time to charge the capacitor when all lines are onhook is measured periodically and averaged together in order to provide a reference by which the comparison threshold is based on (Col 2, lines 47-66).

ii. Kramer's method Compares the loop direct current to a second threshold that takes into account the operating current of the device which is currently offhook. Kramer's method of averaging the steady state power draw of the subscriber line and using the average as a comparison will take into account the steady state current draw of the offhook terminal device. That value is used in setting the second threshold. The second threshold is what the second terminal device is measured against (Col 3, lines 11-19).

However Kramer does not specify that the second current level threshold be higher than the first current level threshold. The applicant's method implies a communications system where the subscriber loop is driven in a constant voltage mode. In this mode, when a second terminal device goes offhook and applies an additional DC resistance in parallel with the offhook first terminal device DC resistance, the effective DC resistance will be lower. This causes the

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constant voltage subscriber loop to draw a greater amount of current when the secondary terminal device is taken offhook. This is the only configuration in which the applicant's method would work. If the subscriber line were driven with a constant voltage, the second current level threshold would be higher than the first current level threshold in order to accurately detect the second terminal device offhook condition.

Kramer's method implies a constant current source on the subscriber line. If the first terminal device is offhook, and a second device goes offhook, the DC offhook resistance of the second terminal device will be in parallel with that of the first. This results in a drop in the effective resistance on the subscriber line. Kramer mentions that under this condition, the voltage will be lower and therefore take longer to charge a capacitor. The only configuration in which the voltage across the subscriber line would decrease in response to an offhook by a second terminal device, would be if the subscriber loop was being supplied by a constant current source after terminal device 1 went offhook. In this configuration, with two terminal devices offhook, the current level to each terminal device would drop and the voltage across the subscriber line would also drop (Col 6 line 61 to Col 7 line 8), (Col 8 lines 17-30). This is caused by the same change in resistance that the applicant's method detects. Therefore, when Kramer is checking the loop current value against the second threshold, the subscriber line current remains constant and the line voltage will vary with the change in line resistance.

It would have been obvious to one skilled in the art at the time of the application to check for an increase in current if the loop was being driven by a constant voltage source. It is common knowledge that $\text{Voltage} = \text{Current} * \text{Resistance}$. Both the applicant and Kramer utilize the fact that the subscriber line resistance will be lowered once an additional terminal device goes

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offhook. It would have been obvious to utilize the change in either voltage or current for offhook detection when one of either voltage or current is held constant and the resistance is being changed. It would also have been obvious to set the two thresholds according to whether the subscriber loop was being driven with constant voltage or constant current. If the loop were in a constant voltage configuration, then it would be obvious to set the second current threshold to a value that is higher than the first threshold by the minimal amount of current required to operate the first terminal device.

b. Claim 2: Kramer's communication system involves one analog terminal device and one digital terminal device (Col 3 line 63 to Col 4 line 14).

c. Claim 4: Kramer's communication system describes a coupling transformer used in the data terminal that presents a 600 ohm DC resistance to the subscriber line when the terminal is in an offhook mode (Col 6, lines 9-16). That is the same offhook DC resistance which Kramer specifies for the analog telephone (Col 6 line 64 to Col 7 line 4). The DC resistance of the offhook data device corresponds to the dc resistance of the offhook analog telephone.

9. Claim 3 rejected under 35 U.S.C. 103(a) as being unpatentable over Kramer as applied to claim 1 above, and further in view of Brown (5506891). Kramer describes claims 1,2,4 but does not mention setting the first threshold to approximately 10 ma.

Claim 3: Brown teaches that most modern telephones require between 10ma and 40ma and 3.5V-5V to operate properly. It would have been obvious to one skilled in the art at the time

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of the application that the threshold for detecting an offhook terminal device be set at least to the minimum operating current of the terminal device to ensure that the terminal device is able to effectively function after going offhook.

10. Claims 5 rejected under 35 U.S.C. 103(a) as being unpatentable over Kramer as applied to claims 1,2,4 above, and further in view of Martin Jr. et al (5398277). Kramer describes claims 1,2,4 but does not mention the offhook DC resistance of the data terminal device being exactly 300 ohms.

Claim 5: Martin teaches that a modem (data terminal device) utilizes components to place an effective 300 ohm resistance across the subscriber line. He teaches the advantage that a 300 ohm impedance across the subscriber line is considered a busy line by the telephone company (Col 18, line 65 to Col 19 line13). It would have been obvious to one skilled in the art at the time of the application that a data terminal device which is detected alongside analog telephones should have an offhook resistance of 300 ohms so that the data device can be detected by the same means that detect the analog phone offhook condition.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alexander Jamal whose telephone number is 703-305-3433. The examiner can normally be reached on M-F 8AM-5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Curtis A Kuntz can be reached on 703-305-4708. The fax phone numbers for the

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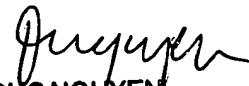
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organization where this application or proceeding is assigned are 703-872-9314 for regular communications and 703-872-9315 for After Final communications.

AJ

June 30, 2003


DUC NGUYEN
PRIMARY EXAMINER